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Distinguishing Between Types of Data and Methods of Collecting Them

Jesko Hentschel

In the "quantitative qualitative" debate, analysts often fail to make a clear distinction between *methods of data collection used* and *types of data generated*. Using characteristic information needs for health planning derived from data on the use of health services, this paper shows that each combination of method (contextual or noncontextual) and data (quantitative or qualitative) is a unique primary source of information.

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Summary findings

Hentschel examines the role of different data collection methods — including the types of data they produce — in the analysis of social phenomena in developing countries.

He points out that one confusing factor in the “quantitative-qualitative” debate is that a distinction is not clearly made between *methods of data collection used* and *types of data generated*.

He maintains the divide between quantitative and qualitative types of data but analyzes methods according to their “contextuality”: the degree to which they try to understand human behavior in the social, cultural, economic, and political environment of a given place.

He emphasizes that it is most fruitful to think of both methods and data as lying on a continuum stretching from more to less contextual methodology and from more to less qualitative data output.

Using characteristic information needs for health planning derived from data on the use of health services,

he shows that each combination of method (more or less contextual) and data (more or less qualitative) is a unique primary source that can fulfill different information requirements.

He concludes that:

- Certain information about health utilization can be obtained only through contextual methods — in which case strict statistical representability must give way to inductive conclusions, assessments of internal validity, and replicability of results.
- Often contextual methods are needed to design appropriate noncontextual data collection tools.
- Even where noncontextual data collection methods are needed, contextual methods can play an important role in assessing the validity of the results at the local level.
- In cases where different data collection methods can be used to probe general results, the methods can — and need to be — formally linked.

This paper — a product of the Poverty Group, Poverty Reduction and Economic Management Network — is part of a larger effort in the network to combine research methods from different disciplines in the design of poverty reduction strategies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the PREM Advisory Service, room MC4-501, telephone 202-458-7736, fax 202-522-1135, Internet address premadvisory@worldbank.org. The author may be contacted at jhentschel@worldbank.org. April 1998. (37 pages)

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Distinguishing Between Types of Data and Methods of Collecting Them

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1. Introduction: Common Tales

Opening at random some evaluation or economic report on the functioning of public primary health care centers in many parts of the developing world, it is quite common for the reader to find a 'tale' which resembles the following:

The primary health care network is extremely weak and underfunded. A nationwide household survey has revealed that utilization rates have dropped by 10 percent over the past two years. The average number of drugs available at health centers has decreased by as much as 20 percent and many centers are not staffed with a full-time nurse. Minor and even major operations take place in decaying infrastructure; leaking roofs often render functioning of the centers in the rainy season impossible. Most of the poor are willing to pay for good quality services (as shown by demand studies), but do not use the public centers as they are either too far away (14 kilometers on average) or because they cannot afford the time and money to reach them. Health system investments largely go to tertiary hospitals. This is at odds with the epidemiological profile of the population, which is tilted heavily towards communicable diseases, as the country has not yet entered the health transition. All this has serious consequences for the health status of the rural poor, especially the most vulnerable groups, such as women and children.

Characterizations like this are used to justify the introduction of large-scale primary health care operations, intended to bring a basic package of cost-effective health care services closer to the target population.

A different type of tale tends to characterize social anthropologists' or sociologists' reports when they describe the behavior of local populations:

Traditional providers, like healers or spiritualists, continue to thrive despite competition from western medical services available in the health center. The villagers first visit healers, who understand the villagers health beliefs, and only later turn to the formal health system as a last resort. This tendency has been exacerbated by the recent price increase of basic drugs, instituted as part of the government's new cost recovery program. Open-ended interviews and direct observations have revealed that only life-threatening emergencies now compel families to send their sick members to the health center. Such visits are commonly financed by the kinship support networks, often depleting savings of many households simultaneously. As expressed by villagers, these visits often turn out to be ineffective due to the communication problem between the health center nurse and the local tribeswoman or tribesman.

These two descriptions, if taken alone, can lead social and health policy makers to obtain quite divergent impressions of why public health services are not visited. From the first example it would appear that the major bottlenecks for a functioning system are lacking infrastructure, too few staff, and low drug availability. The village study example points to a completely different set of factors impeding the use of primary health facilities by the local population, namely the role of traditional health beliefs, unaffordable costs of health services in the context of widespread poverty, and existing cultural barriers between health staff and the villagers.

The two approaches exemplified above - one based largely on household survey and epidemiological analyses, the other on in-depth village-studies -- have generally been termed as 'quantitative' and 'qualitative' in the methodological literature in public health (and the social sciences more broadly) and provoked a 'debate' as to whether the two are mutually exclusive as they describe *different* realities or whether both are needed to describe and understand *one* reality.

This paper will clearly follow the latter argument - both methodological approaches being necessary to understand complex social realities. But while this is by now an increasingly accepted view, practical integration remains elusive. Partly, this is due to researchers and analysts remaining within their methodological and epistemological heritage; partly, it is due to quite practical problems of integrating the macro, broad picture with the micro analysis. Questions about sampling, representativeness or objective versus subjective definitions, e.g. of the health status, quickly arise and become obstacles to combining research results from both methodological approaches.

This paper aims to illustrate the importance of drawing on both types of approaches, and the problems and potential associated with such integration. Specifically, the paper aims to analyze:

- * the complexity of factors necessary to understand and analyze a social phenomena in developing countries, using the utilization of health facilities as

an example;

- * the comparative advantage that different types of investigative instruments have to illustrate such factors and the way they can be used to cross-check each other; and
- * the possibilities for combining the different instruments.

Rather than remaining within the restrictive 'quantitative-qualitative' dichotomy, the paper introduces a distinction as to whether investigative methods are *contextual*, i.e. whether they attempt to understand human behavior within the social, cultural, economic and political environment of a locality, or not.

The paper is structured as follows. Section 2 shortly recaps the qualitative-quantitative debate, concluding that it inadequately describes available investigative instruments in data collection and explains why a 'contextual - non-contextual' distinction adds an important dimension to the classification of instruments. Section 3 demonstrates the multiplicity of information necessary to understand and analyze human behavior in developing countries, using health service utilization as an example. It assesses what types of instruments are most likely to be of help in this endeavor. Section 4 classifies and evaluates the links between information requirements, data collection methods and data types. Section 5 concludes.

2. The Data Collection Process: Methods and Data Types

2.1. *Data Sources to Analyze the Utilization of Health Facilities*

Empirical investigations use a number of different steps to arrive at their results. Four such steps, which together can be thought of as the research design, are generally distinguished: data collection, data analysis, data interpretation and the utilization of the information.¹ This paper is largely concerned with the first step in this scheme, data collection. This step itself comprises two aspects which are of importance for the discussion presented here: first, the *methods* of data collection and second, the *data type*

¹ See, for example, Sechrist and Sedani (1995).

that is collected. Methods and data types will define the base, or data source, on which subsequent empirical analyses builds.

Researchers analyzing, for example, health utilization patterns use data sources for their analyses which can be distinguished by both methods of data collection and by data type recorded. Health or household surveys provide information on geographic or national utilization patterns of the public or private sector services and form the base for statistical tests on the importance of health care costs, income of the household or education of individual household members in explaining visits to health facilities. Data collected through such surveys is characterized by structured, closed-end interviews in which the investigator records answers according to pre-specified codes. In contrast to such large-scale surveys are, for example, participatory assessments which try to shift the process of understanding social reality surrounding 'health' to local populations. Combined with analysis and interpretation, such open-ended methods might lead to an understanding of who in the household decides on health expenditures, how the social stratification in a community influences accessibility of health care or whether modern definitions of diseases are shared or rejected by local populations. Other collection types, which are shortly summarized in Table 1, include ethnographic investigations (employing classic anthropological research methods like direct observation over an extended period), longitudinal village studies (which aim to identify and conceptualize the social, cultural and other variables influencing the utilization of health facilities over several different observation periods), beneficiary assessments (which undertake systematic listening to investigate the perceptions of health users and stakeholders and to obtain feedback on development interventions capturing local evaluations of service provisions), and epidemiological assessments (deriving broad disease profiles of the population).

The above should suffice to illustrate how and what information is generated in the data collection step. The typology of Table 1 does not claim to be exhaustive.

Table 1:
Health Service Utilization: Methods Used in Data Collection

<i>Data Collection in:</i>	<i>Methods</i>
Beneficiary Assessments	participant observation and more systematic data collection methods like structured interviews over a limited time span (Francis 1996, p.4). ³
Epidemiological & Anthropometric Surveys/Census	bio-medical surveys of the population and health staff to assess the pattern of morbidity, mortality and nutrition in the country as well as diseases treated at health facilities. Pre-formulated, closed-end questions and medical and anthropometric tests.
Ethnographic Investigations	anthropological research techniques, especially direct observation, to analyze the influence of ethnicity, gender, village stratification on the use of health facilities over an extended time period
Household & Health Surveys	structured interviews of a representative household sample to obtain information about use of health facilities, subjective illness reports, education of household members, income of the household etc. Pre-formulated, closed-ended and codifiable questions asked to one household member (often the head) during one or two visits.
Longitudinal Village Studies	wide variety of methods ranging from direct observation and recording (tabulation), periodic (semi)-structured interviews with key informants (e.g. health center staff) and village population, to survey interviews in several different observation periods. ²
Participatory Assessments	ranking, mapping, diagramming and scoring methods are prominent besides open interviews and participant observation. The time horizon of participatory assessments is often short. Participatory assessments build on local populations describing and analyzing their own reality surrounding health, disease and problems with health facilities. The learning process is reversed; the investigator becomes the facilitator. ⁴

- 1 See Grosh and Muñoz (1996) for a detailed description of household survey design and implementation.
- 2 See, for example, the methodology section of Haddad and Fournier's (1995) longitudinal village study of health utilization in Zaire. See also Jayaraman and Lanjouw (1998) for a survey of longitudinal village studies in India.
- 3 See Salmen (1995).
- 4 See Narayan (1996), Chambers (1992) and Francis (1996, pp.4-7).

While the literature distinguishes between such forms of data collection, the *methods* employed and the *data type* generated can -- and often do -- overlap substantially. For example, longitudinal village studies can use formal interviews, similar in structure (although probably not in content and conduct) to household or health surveys but they only cover one or a few villages rather than a large rural area. Similarly, participatory assessments do not only use methods in which local people are

the main analysts but also include direct observations or key informant interviews among their menu which beneficiary assessments or ethnographic investigations also command in their respective toolboxes. Such an overlap is even more prominent with respect to the recorded variables. Other than epidemiological assessments, all forms of data collection listed in Table 1 can generate information on utilization rates of health centers (or their trends). Hence, classifying the forms of data collection according to *either* method used *or* data type collected is a very difficult endeavor.

2.2. *Qualitative versus Quantitative: A Useful Classification?*

Many fields of the social sciences have been engaged for years -- if not decades -- in what has come to be known as the 'quantitative-qualitative' debate. The debate concerns itself with the question, which of the approaches is better suited to record social phenomena, and to what degree the two should -- and can -- be integrated. In recent times, the 'voices of segregation' as those of Pedersen (1992, p.39), who questions the usefulness of quantitative methods because "the complex network of factors and the human experience of illness is lost in the search for establishing empirical generalizations for the sake of presenting reliable results", have lost considerable support; the debate has shifted considerably towards a broad mainstream calling for sensible integration of quantitative and qualitative approaches very much along the lines of Mechanic (1989, p.154) who maintains "the strong view that research questions should dictate methodology" and he particularly endorses "combining the advantages of a survey (its scope and its sampling opportunities) with the smaller qualitative study."²

The debate is largely concerned with the first step of empirical investigations mentioned above, namely 'data collection'. However, as outlined above, the data

² See also Baum (1995), Carvalho and White (1997) and Chung (1997). Sechrist and Sidani (1995, p.78) hold that "both quantitative and qualitative methods are, alter all, empirical, dependent on observation. Although empirical inductivists and phenomenologists (also empiricists) differ in their philosophical assumptions and, consequently, the ways in which they go about collecting and making sense of their data, their ultimate tasks and aims are the same: describe their data, construct explanatory arguments from their data, and speculate about why the outcomes they observed happened as they did".

collection process is characterized by two aspects: the methods used and the data type recorded. The quantitative-qualitative debate lumps these two aspects together. Take, for example, one of the classic texts on qualitative research by Patton (1990, p. 9-11):

"Qualitative methods consist of three kinds of data collection: (1) in-depth, open-ended interviews; (2) direct observation; and (3) written documents ... Considering evaluation design alternatives leads directly to consideration of the relative strengths and weaknesses of qualitative and quantitative data. Qualitative methods permit the evaluator to study selected issues in depth and detail."

Methods of data collection and the output of that activity, the data itself, are subsumed under one label by Patton. However, the type of methods Patton reviews -- such as open-ended interviews and direct observation -- although quite different from closed-end surveys³ -- can also produce quantitative data. For example, Larmer (1997) reports on an ethnographic investigation in Peru in which the anthropologist observed and recorded how parents distribute health care among their children, expressed in pure numbers -- a method labeled as 'qualitative' by Patton above -- which leads to 'quantitative' data output, namely the number of children (grouped by gender and age) that were sent to primary health care facilities by their parents. Similarly, Holland (1997) examines what kind of "qualitative survey material" (title) can be integrated into the design of the Core Welfare Indicator Questionnaire, a relatively new instrument used by the World Bank and other donor organizations to measure short-term fluctuations of welfare in developing countries (World Bank 1997a). Here, questions to obtain 'qualitative' data about social capital, household relations including violence, and political participation of communities are integrated in a quite standard 'quantitative' survey.⁴

³ Closed-end surveys are often associated with quantitative methods and data. "Quantitative surveys permit the collection of data from large numbers of people in standardized ways, enabling comparison between communities, countries and time periods. Alone, however, they are often insufficient in providing the type of in-depth informational required to understand the complexity of human behavior and to formulate prevention, and control strategies and programs." (Scrimshaw 1992, p.27).

⁴ Most of the conventional health and household surveys include such qualitative questions which try to explore reasons for certain behavior, e.g. while children don't visit schools, why people choose to (or are kept from) participating in the labor market or do not attend health centers although members of the household are sick. See, for example, the Living Standard Measurement

To sum up, labeling both methods *and* data as quantitative or qualitative creates a problem with regard to analyzing what the comparative advantages of different methods and data types are to understand human behavior like the utilization of health facilities.

2.3. Contextual versus Non-Contextual Methods

When reviewing the above-mentioned qualitative-quantitative debate, a term, which is drawn on quite frequently, is 'context'. Generally, context is equated with 'qualitative' research -- Carey (1993, p. 302), for example states that "contextual detail is generally missing in quantitative research". Similarly, Bryman (1984, pp.77-78) holds that with "qualitative methods there is a simultaneous expression of preference for a contextual understanding so that behavior is to be understood in the context of meaning systems employed by a particular group or society". However, the examples mentioned in the previous section showed that research paying tribute to contextual detail could very well lead to quantitative findings. 'Context' is therefore not a useful attribute to describe different data types.⁵

The concept of context, however, can be of use to distinguish between methods and data type in the data collection process. Specifically, the term can be introduced to separate different *methods* of research: *this paper characterizes those data collection methods as contextual which attempt to understand human behavior within the social, cultural, economic and political environment of a locality.*

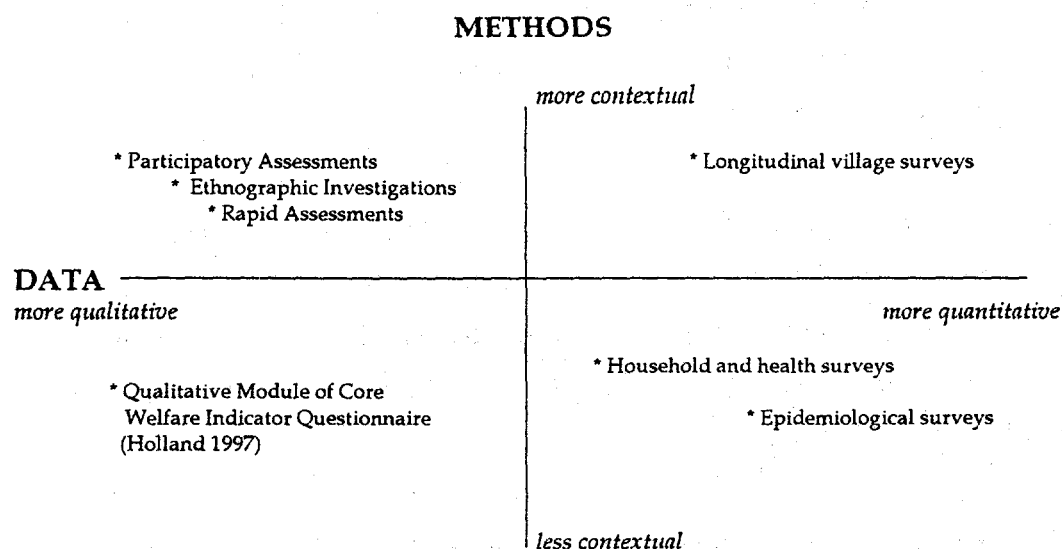
It is important to stress the different ingredients of this definition: first, it relates only to the methods used in the data collection process and it does not describe, for example, the interpretation of results (their 'contextualization'). Second, methods are

Survey for Ecuador (SECAP 1994).

⁵ Sechrest (1995, p.80) similarly holds that "qualitative research proponents make strong claims on concern for context in reporting their findings. We discern no less concern for context in more quantitative findings".

termed contextual if they are specific to the locality or community. Hence, a large-scale household survey, although it might be adapted to the country in which it is fielded, is not termed contextual below because it cannot pick-up social factors relevant to an individual locality. While the term "locality" is given a geographic meaning here, it should be noted that it can also be social in character, e.g. describing a particular group. Direct observation or mapping and planning exercises fall into this category as would a carefully designed village survey, e.g. to record the seasonality of agricultural income. Data recorded by contextual methods continue to be characterized as quantitative or qualitative. If idea of 'context' is employed in this way to distinguish different methodologies, the terms 'qualitative' or 'quantitative' can be used in a more consistent and literal fashion to refer to the degree of quantifiability of the recorded data. Thirdly, it is important to look at both methods and data type as a *continuum* where a certain type of investigation uses *more* or *less* contextual methods and produces *more* or *less* qualitative data.⁶

Figure 1: Data Collection Step: The Method/Data Framework



⁶ For example, the difference between ordinal rankings, often seen as a classic feature of qualitative data, and cardinal frequencies, is largely semantic.

Figure 1 brings together the above discussion as different forms of data collection are depicted in the methodology/data framework. Entries in the figure are to some extent arbitrary as the contextual and qualitative content of studies can vary between different applications. Longitudinal village studies, for example, while generally contextual, can sometimes produce more quantitative and sometimes more qualitative data, depending on the exact research subject considered. But abstracting from such exact location, all four quadrants characterize different ways how forms of data collection fit in the method/data plane. The above mentioned Qualitative Module of the Core Welfare Indicator Questionnaire (Holland 1997), for example, can be confidently located in the non-contextual method and qualitative data quadrant.

3. Health Sector Planning and the Utilization of Health Facilities: Information Needs

This section employs the method-data framework of the data collection step to show how different data collection instruments can contribute to understand the utilization of health facilities in developing countries. The section first describes why information on health service utilization is crucial for health sector planning and then assesses which data collection instruments are the primary source for the identified information needs.

3.1. Information Needs for Health Sector Planning

Studies examining the utilization of health facilities provide important data for the process of health sector planning. Accurate information is crucial for the planning process, independent of the planning model (incremental or rational) looked at, if planning is viewed as deciding how the future should be different from the present, what changes are necessary and how these changes should be brought about (Lee and Mills 1983). Utilization studies need to provide policy makers with information on utilization rates and their variance by region and socio-economic group, the incidence of primary health care expenditures, hindrances to using existing facilities (such as costs,

distance, staffing, education, health beliefs, power), perceived quality and appropriateness (with respect to the epidemiological profile) of services rendered and the impact of public policy actions such as price increases or improvements of infrastructure. Such information is, for example, indispensable for the prioritization of health expenditures. With a hard budget constraint, public policy needs to determine trade-offs between activities such as building new primary health care centers, improving the infrastructure of existing centers, improving drug supply, altering the package of basic health care services, investing in quality and quantity of medical staff, or designing programs which build heavily on traditional health beliefs.

3.2. *Understanding the Utilization of Health Centers: Information Needs and Data Collection*

The discussion will draw on specific examples from the literature to illustrate different information needs for health policy and planning deriving from utilization studies, linking these information needs to data collection processes discussed above. The analysis will start by classifying different information needs and then evaluate which data collection methodology (contextual/non-contextual) and recorded data (quantitative/qualitative) are most suited to fulfill the needs.

Utilization profile. A snapshot, or profile, of health facility use in a country provides four types of crucial information, all of which will predominantly rely on non-contextual data collection methods with mainly quantitative data as outputs for analyses. First, health provider shares can be calculated so that the role of public provision can be compared to the private and traditional provision of health services. The role of the public sector varies substantially: it is estimated that 91 percent of all primary care is public in the Ivory Coast (World Bank 1997b, p.65), 40 percent in Kenya (World Bank 1995, p. 75), and only 20 percent in Uganda where traditional or other informal health providers hold a provider share of 50 percent (World Bank 1994a, p.1). Non-contextual tools like health or Living Standard Measurement Surveys (LSMS)⁷ typically provide data that allows calculation of such utilization rates. Especially if

⁷ See the survey article by Baker and van der Gaag (1993) as they use utilization information from household surveys in many different applications.

disaggregated by region and rural/urban populations, they provide a broad picture of the relative strength of the public sector vis-à-vis alternative providers and puts the potential future role of the public sector into perspective. Non-contextual survey methods will need to play a prominent role in the data collection process.

Second, household and health surveys also provide estimates of the unmet need, namely those households reporting (subjective) severe sickness and no visit to any provider. In a recent LSMS in Ecuador, more than 20 percent of the sick reported that they did not obtain such outside consultation although they judged it as necessary.⁸ However, the *reasons* why health centers are visited -- or not visited -- are difficult to derive from this data.⁹

Third, utilization rates obtained from health or household surveys can be cross-tabulated with characteristics of the users, that is by income group, gender, age or ethnicity to derive benefit incidence rates.¹⁰ This is a very powerful tool as it shows how much of public expenditures go to specific target groups, e.g. to rural low-income households. In Ecuador, for example, the distribution of public primary health expenditures calculated with information derived from a Living Standard Measurement Survey tended to be more progressive than many other social expenditures (World Bank 1996b, p.232); a picture mirrored in quite a few other developing countries (Jimenez 1986).

Fourth, utilization patterns by type of service provided (preventative and curative) can be compared with data from epidemiological surveys. Such comparison, especially if done by region, and area (rural/urban) can be an important way to spot an important mismatch between health services delivered and 'objective need'. For

⁸ World Bank (1996b, p.26). Such information will not be very useful in obtaining comparable morbidity data, however, because illness is subjective and culturally shaped. See Yach (1992) for a detailed discussion.

⁹ Non-contextual health and household surveys do include questions to obtain qualitative data but the use of such data is generally limited as they only concern negative reasons ('why did you not take drugs or visit health centers although you were sick?') and do not include factors which influence the *choice* of provider, e.g. a public health center might be close but not perceived by the population as providing the same quality service than a traditional healer.

¹⁰ Benefit Incidence Analysis assesses how much different target groups benefit from the provision of public services.

example, many countries spend a large part of resources for treatments in tertiary care hospitals on the cure of man-made diseases while infectious diseases are by far the largest threat to the population. Again, *why* such a mismatch occurs can seldom be based on such non-contextual surveys.

To summarize, closed-end and large-scale surveys, i.e. methods that tend to be less contextual, play the pivotal role to allow for the development of an utilization profile. The role of contextual methods in data collection rests largely with supplying information necessary to cross-check and validate findings contained in the broad profile.

Economic Factors Influencing Utilization Behavior. Important economic determinants influencing health care utilization are the cost of the service to the user and the income of the user. These are crucial variables for health planning as they allow to assess changes in health care demand as the consequence of rising personal incomes (which depends on the income-elasticity of demand) or changed user charges (which depends on both price- and cross-price elasticities of demand)¹¹. Both price- and income-elasticities are likely to vary for different population groups; a number of studies have shown that the price-elasticity for health services tends to be higher for the poor.¹² Supporting evidence for this hypothesis is presented by Sauerborn et al. (1994) who determine the average price-elasticity of health care in Burkina Faso to be low but find children (-1.7), the elderly (-3.6) and the poor (-1.4 in the lowest quartile) to have considerably higher elasticities. An increase in user charges would hence reduce health care consumption by these vulnerable groups significantly (unless they could switch demand to other providers).¹³ Hence, average elasticities, while important for aggregate planning as they determine resource demand and public revenue generation, need to be treated with considerable care.

¹¹ See Hammer (1996) for an in-depth treatment of these issues.

¹² See McPake (1993) for a review of evidence in the literature.

¹³ Note, even low price-elasticities can lead to substantial drops in health consumption if the price hike is big enough: In Kenya, Mwabu et al. (1993) find that a modest user fee (although a large percentage increase) would reduce government health facility utilization by 18% with two thirds of those not switching to other facilities but rather abandoning the modern health sector altogether.

Utilization responses to income and price-changes are estimated from quantitative data, either obtained from national-level, non-contextual assessment methods or -- rather infrequently -- from local, contextual ones.¹⁴ Qualitative data, most often derived from rapid and beneficiary assessments or anthropological studies employing contextual methods, have their own very important role to play as they can shed light on some of the underlying causes of price or income responses. In the African context, many authors have stressed that the payment system, especially in rural areas, is an important determinant of user choices. With incomes and illness often seasonal, savings scarce at best and kinship networks increasingly weaker, a significant number of the poor rural population turn to traditional healers and spiritualists when user fees rise (and perceived quality does not improve)¹⁵. This was quite surprising as a number of studies confirmed that actual costs weren't lower in this sector compared to the modern or formal one. However, the traditional health sector is often characterized by personal contacts and providers tend to operate a much more flexible payment system (including credit, in-kind payments and even exemptions for the poor) than the modern health sector.¹⁶ Another reason traditional healers may appeal in times of rising costs for health care is that they may charge only in case the treatment has been successful, as observed by Norton et al (1995, p.41) in Ghana. These points indicate that user charges in health centers do not represent the full cost of relying on public health as other transaction costs exist. Contextual methods are well suited at uncovering such hidden transaction costs.

Contextual methods collecting qualitative data are also needed to obtain quick feedback of the impact of price (or income) changes on health behavior. In a rapid assessment exercise, Booth et al (1996, p.68) observed in Zambian villages that increases in the price of formal health care services led to a significant increase in self-medication with the consequence of both under- and over-dosage. A different (and difficult)

¹⁴ For 'local studies' see Haddad and Fournier (1995) with case studies in Zaire or Mwabu et al. (1993), using data from several villages in Kenya.

¹⁵ While most of the examples provided point to the negative impact of increasing user charges, this need not be the case and will be intrinsically linked to whether the quality of the service changes. See for a positive result of increasing user charges Litvack and Bodart (1993).

¹⁶ See the summary of Beneficiary Assessments in Africa by Norton and Kessel (1996). See also the evidence in Booth et al (1996) on Zambia, Norton et al (1995) on Ghana and World Bank (1994b) on Burkina Faso.

question, which will be touched on later, is whether and under what circumstances such findings are representative of a larger picture. Finally, such data recording can also provide a rather rapid and good test to see whether user fee exemption policies -- often existent on paper only -- actually work. While non-contextual and closed-ended surveys might ask for such information, the likelihood of obtaining honest and true answers in such formal meetings might be lower than in more informal settings or focus group discussions.

Staffing of the Health Center. Availability, composition, conduct and quality of health center staff will impact on utilization behavior. Both non-contextual and contextual methods will be necessary to collect the data necessary to assess the impact of staffing on health service utilization.

Non-contextual, closed-ended methods of data collection will record some aspects of such determinants with both quantitative data (e.g., surveys/census of health centers) or more qualitative data (e.g., testing and evaluating the medical knowledge of a representative sample of health staff). Several studies analyzing health demand behavior¹⁷ include, for example, the number of staff as a quality indicator in statistical analyses and thereby link "objectively measurable characteristics of health care facilities ... to households' subjective assessment of the probable outcomes" (Alderman and Lavy 1995, p.5).

However, the quality of staff as perceived by users can be quite at odds with an objective assessment of their medical knowledge, accuracy of consultation and efficient dispensation of drugs. More in-depth contextual methods generating qualitative data can

¹⁷ Health demand studies, assuming utility-maximizing consumers, typically model the demand for a particular health service as dependent on the price of that service, prices of alternative services, household income, distance or time variables, education, and demographic variables. Quality variables have been explicitly introduced in estimations (e.g., Gertler and van der Gaag 1990, Mwabu et al 1993, AsensoOkyere et al. 1996). But due to the nature of non-contextual surveys, the true quality as subjectively perceived by the users are replaced by "objectively measurable characteristics of health care facilities" (Alderman and Lavy 1996, p. 5) such as the number of medical staff, number of drugs available at the facility or electricity and water availability. See Alderman and Lavy (1996) and Mwabu et al (1993) for short literature reviews on health demand studies.

be instrumental to grasp when the local population values health staff as performing their job well or bad. They can also inform the design of non-contextual surveys. Gender of the health staff is a theme that appears in many studies: women mentioned the lack of female health staff as a deterrent to the use of public health centers in Burkina Faso, Sierra Leone and China.¹⁸ However, such gender influence can vary depending on local perceptions: Dudwick (1995) finds in a number of Armenian communities that "in the view of local populations the male drug-store keeper is often incorrectly perceived as having a higher level of diagnostic skill than the female clinic nurse".

Another crucial determinant of quality of health staff, also recorded through contextual focus group discussions or open-ended interviews, is how patients feel treated, accepted and understood. Norton and Kessel (1996, p.9) find that in eight out of eleven African beneficiary assessments unsympathetic, hurried and arrogant treatment by health staff is among the most influential determinants of the choice of provider.¹⁹ Communication and language problems obviously contribute to such perception of treatment as well as trust towards the health center staff: Ethnically motivated distrust in Burundi resulted in Hutu patients rejecting advice or treatment by Tutsi health center staff (Norton and Kessel 1996, p.11). Patients feeling powerless and not able to hold health staff accountable are recorded as barriers to health sector use in Armenia (Gomart 1996, p. ix) and Tanzania (Gilson et al. 1994, p.781). Morankar (1993) holds that 70 percent of respondents in a case study in Maharashtra choose private clinics despite government health services (supposedly) being free; the perceived approachability of staff is higher in the private hospitals. Further, official and actual costs of health services can differ, due to illegal side payments and outright corruption in health centers and among pharmacists.²⁰ Corruption raises not only the price of the service and makes visits financially unpredictable but also undermines the quality perception and trust of local populations in publicly provided health services.

¹⁸ See the results of African beneficiary assessment in Norton and Kessel (1996) and World Bank (1994b). See Kaufman et al (1997) for evidence on China.

¹⁹ See also the findings by Gilson et al. (1994), Haddad and Fournier (1995), and of Participatory Poverty Assessments for Ghana (Norton et al 1995, p. 41) and Kenya (World Bank 1995, p. 79),

²⁰ Corruption has been recorded as a major barrier to health service utilization in several African beneficiary assessments (Norton and Kessel 1996).

The attitude of health staff towards patients will, naturally, also have an impact on the effectiveness of treatments. Mwenesi et al (1995, p.1272) report on case studies in Kenyan villages where interviews with women having been treated for malaria revealed that only half of them could correctly repeat which drug to take at what frequency and for how long. None of the women had asked for clarification for fear of the health workers' potential aggressive response.²¹

All of the above mentioned issues (conduct, approachability, corruption, communication) of health staff have been explored using contextual methods of data collection in the literature. Such results can, though, inform the content of large-scale and non-contextual qualitative surveys.²² If a number of contextual community studies, for example, reveal that both the age and gender of health staff is a determinant of health service use, questions aiming to obtain qualitative data can be introduced in large-scale household surveys. However, data obtained from the fielding of these surveys has to be looked at with care as different members of the household might evaluate gender and age of health staff differently and results would thus hinge crucially on who is the main interviewee in the household.

Physical Aspects of the Health Facility. Distance, transport, infrastructure, equipment and supply of drugs are factors associated with the location and functioning of the health facility and they all influence user behavior through their determination of service cost and perceived quality. Only the combination of contextual and non-contextual data collection methods will allow the planner to assess the importance of these factors in health service utilization.

Some examples will suffice to show that a combination of instruments is necessary. The pivotal role of drug supplies is supported by both beneficiary

²¹ The importance of such subjective perceptions of staff quality and their divergence from 'objectively' measurable quality indicators is also supported by a recent study from the US. Dunfield (1996) carves out three dimensions, which underlie the evaluation of health staff by patients: personal versus impersonal staff-patient relationship; holistic versus scientific approaches to treatment; and the balance of control between patients and staff.

²² See Holland (1997) on this general point.

assessments (e.g. Gomart 1996, Norton and Kessel 1996) and statistical evaluations of household surveys (e.g. AsesnoOkyere et al. 1996). Although it appears that 'distance' or 'transport' are factors which can be measured quite easily through household surveys which then enter health demand studies, sociological and cultural factors can change the meaning of these significantly. Saint-Germain et al. (1993) give a good example. When asked why they did not take up breast-cancer screening, older Hispanic women in Tucson (US) stated that they had 'transport' problems. Public transport, though, appeared to be functioning well in the city. Focus group discussions revealed that these transport problems had actually little connection to what one would commonly associate with the term. Rather, it had to be understood in the cultural Hispanic context in which relatives or friends accompany each other to medical visits. The women stated that breast-cancer screening would not justify asking friends or relatives for company on the trip to the hospital. This kind of subtlety can only be captured by open-ended interviews, hence contextual methods. Similarly, local populations can view medical equipment or infrastructure in distinct ways. Haddad and Fournier (1995) find in Zaire, evaluating both quantitative and qualitative data, that the population in the catchment area of 21 rural health centers valued microscopes very highly and that they preferred attending an unrenovated center with a microscope to a renovated one without a microscope. These examples should suffice to establish the role contextual methods play to obtain data that verifies, contradicts or explains results obtained from studies based on non-contextual tools. Further an important role for local, in-depth studies is to inform large-scale survey design.

Health Beliefs and Health Knowledge. Both health beliefs and knowledge are areas that will primarily depend on contextual data generation methods as they are more able to explore and understand the meaning of disease by local populations. Cultural variables can influence the utilization and acceptance of formal health care in a variety of ways and a few examples should suffice to clarify their importance. Larme (1997) studies the role of ethno-medical beliefs in the Peruvian Andes. She observes that parents in an indigenous village discriminate health expenditure allocations among their children on a gender basis, neglecting girls. Partly, this can be explained by ethno-medical beliefs linked to *urana* (fright) and *larpa* (stronger form of *urana* which can be

caused by the mother having seen a dead body or animal during pregnancy). *Urana* and *larpa*, synonymous with major common diseases in the Peruvian Andes, are believed to be much more dangerous to boys than to girls. If boys show symptoms of *urana* or *larpa*, this is taken much more seriously by the parents than if girls show the same symptoms. In Burkina Faso, the World Bank (1994b, p.11) reports that some women do not take up the pre-natal care offered by nearby health centers because of shame if they had violated traditional rules of birth spacing prevalent in the local culture. In Niger, Aubel et al. (1992) found that the local understanding and categorization of the severity of diarrhea did not conform at all with medical classifications and that this was one of the main reasons of the ineffectiveness of health programs in this area.²³

Often local populations discriminate between different providers according to their understanding of diseases. Norton et al (1995, p.37) find that in northern Ghana fractures are always taken to traditional practitioners or 'bone setters'. In the central region of Ghana, epileptics were generally taken to local spiritualist churches in search of a cure. Women in Kenyan villages, especially the younger and less educated ones, viewed malaria as a mild disease and only 10 percent knew about the actual transmission process of the disease (Mwenesi et al 1995, p.1272). Viewed in this way, the women treated malaria with traditional recipes or according to advice from traditional healers first -- thereby decreasing survival chances of the infected (especially children) considerably. In Guatemala, Delgado et al (1994), summarizing a study of 146 rural women insured by the Social Security System, report that the women generally sought treatment advice for childhood diseases from an older woman in the family first and did so more often for diarrhea (82 percent) and fever (64 percent) than for cough (43 percent) and worms (28 percent). In this case it was not only the different perception of disease but the judgment about the prescribed drugs: The social security health center

²³ Theoretically, studies examining the role of specific variables (like gender, health beliefs etc.) on health service use should control for the influence of other variables. For example, if younger children 'on average' receive less health care attention than older children, it is not all clear that age is the actual determining factor. It might be true, for example, that the families in which the younger children live are poorer than the ones with older children. The causal link could well be family income rather than age of the children. As far as contextual studies (like the one by Larmer 1997) collect data on a variety of different variables, such influences could be statistically tested.

was hardly frequented, largely because the women thought that they would not obtain 'potent' drugs which they could procure from the (informal) private sector which "unabashedly responds to their demands" (p.161). Clearing away "the discrepancy between the 'rational' needs perceived by the official health sector and the demands of the population is one of the bigger challenges to health care planning" (p.161).

Intra-household Factors. Provider choices and treatments are also a function of the intra-household distribution of resources, decision-making power, and education of members of the household. Again, both contextual and non-contextual data collection methods will have to be relied on to fill information needs.

On a large scale, non-contextual tools recording rather quantitative data can help to determine the influence of education and the degree of intra-household discrimination with respect to health care consumption if they record health expenditures and illnesses in detail (and correctly).²⁴ Alderman and Gertler (1997) examine how gender differences in health investments -- viewed as human capital allocations -- differ between families with different incomes in Pakistan. They derive theoretically, that if such a discrimination exists, the demand for girls' human capital investment will be more price- and income-elastic than for boys. This has an important implication for Pakistani health policy as it implies that price increases for health care will increase the discrimination of health care allocation between boys and girls. Further, Alderman and Gertler show that the gender discrimination disappears with rising incomes. Higher incomes will hence reduce gender discrimination with respect to health care allocation in Pakistan; a further important policy result. However, the use of questionnaire surveys to obtain information on intra-household dynamics does have its limits. Scrimshaw (1992, p. 28) asserts that "some cultures maintain beliefs that the male head of household makes all major family decisions. Consequently women's roles in illness diagnosis, food production, and treatment seeking might be hidden and not really acknowledged in questionnaire interview situations."

²⁴ For example, the Living Standard Measurement Surveys for Peru (Cuanto 1994) and Nepal (Nepal Central Bureau of Statistics 1996) include information on personal health expenditures, treatment, and type and severity of disease.

Contextual methods of data collection can also examine such discrimination and have the potential to get to underlying causes in more depth. Gomart (1996), employing open-ended interviews and participatory methods, concludes that Armenian parents give priority to their children rather than themselves when resources are scarce. The role ethno-medical beliefs can play for intra-household distribution of health care has been mentioned above in the Peruvian context, where Larmer (1997) conducted an ethnographic investigation. Finally, women's focus groups in Burundi explained why the introduction of a local, pre-paid health insurance scheme increased the health utilization especially of women and their children: The insurance scheme meant that women were no longer dependent on their husbands for cash before visiting the health center (Arkin 1994).

Intra-community factors. Recording intra-community factors such as feud, strife and social stratification which influence health service utilization will largely rely on contextual methods of data generation.

Although often treated as homogeneous units, communities in one country or region -- both urban and rural -- are quite often characterized by internal diversity and stratification.²⁵ Community factors influencing health service use could be, for example, ethnic divide within communities; the influence of a caste system with accepted provider choices linked to specific castes (Parker 1997); related to kinship or informal social safety networks in the community which can offer its members support in times of hardship (Vissandjee, 1997, in Gujarat, India); or reflect that communities showing a higher degree of cohesion are more capable of pressuring governments to supply functioning health care. Narayan and Pritchett (1997) find in rural Tanzania that the level of social capital, measured by numbers of associations households belong to, is positively related to availability and quality of public services in rural communities.

The degree of internal division (and cohesion) can impact on the utilization of

²⁵ Such heterogeneity is described in detail, e.g., for Zambia by Booth et al (1996), for rural Ecuador by Hentschel et al (1996), urban Ecuador by Moser (1996) or for Burkina Faso by World Bank (1994b).

health facilities and the choice of health care providers. These variables can only be discovered by exploring intra-community lineage within their political, economic, social and cultural environment which makes contextual methods of data collection necessary. Pre-formulated and closed-end surveys (which often sample only few households per community anyway) are not well suited to attain the required depth for this type of information.

Factors Beyond the Community. Finally, the last group of factors important to understanding the utilization of health facilities are those beyond the community, including trust, feud and ethnic strife determining relationships with the outside (other communities, local or regional government). As above, contextual methods (combined with institutional and political analyses) will be more apt to produce information which enables the researcher to assess their importance. In large-scale demand studies this dimension seldom plays a role and is difficult to capture, especially if the socio-political environment varies from locality to locality and is not common knowledge.

Trust of local populations in government and its activities is a basic ingredient to deliver any basic health care package. A beneficiary assessment in Burkina Faso showed that "until recently, entire communities have been known to refuse vaccination, mostly out of fear that the government was carrying out a birth control program under the camouflage of the immunization program" (World Bank 1994b, p.13). Feuds between neighboring communities can make the sharing of health centers impossible -- the same beneficiary assessment in Burkina Faso estimated that 80 percent of health center utilization stemmed from the village in which the centers were located and that the rest of the catchment areas were almost not serviced at all.

4. Revisiting the Relationship Between Methods and Data Types

The previous section described a number of information needs for health policy formulation deriving from the utilization of health facilities and provider choice. The

list does not claim to be exhaustive; rather it is supposed to illustrate the link between different information needs, collection methods and data types according to the method-data framework introduced in Section 2 above.

This section now categorizes and evaluates these links. For this purpose, Table 2 lists all information needs mentioned above and evaluates which of the four forms of data collection is of use in this respect. Entries in the table describe which roles the collection forms can play: 'Primary' stands for the most important source of information; 'check' means the potential of one type of investigation to confirm or contradict ('triangulate') a primary source; and 'lead' stands for an investigation type exploring issues which another one can then 'follow-up'.

Two short remarks might help to interpret the table. First, data collection forms are evaluated here with regards to their potential contribution informing health policy and planning, i.e. if user costs should be raised; investments made in infrastructure, medical equipment, drugs or training of staff; if closer cooperation is needed with the traditional health sector; corruption has to be tackled and so on. This will explain why contextual methods are not assigned a 'primary' function with respect to *all* information needs although they would probably be capable of producing all necessary quantitative and qualitative data pertaining to a specific *locality*. But this is not enough. For example, health resource planning will necessitate an estimate of the *average* price elasticity of health demand in a country derived from a representative and non-contextual survey; a local estimate will be interesting in its own right but not sufficient to inform policy making. Additionally, planners will often have to choose or prioritize *between* localities for which broad information is needed. Second, Table 2 is arbitrary and readers might disagree with specific (or even most) entries. Explaining or justifying the judgments or evaluations presented in Table 2 would be both cumbersome and exhausting. The main emphasis, however, rests with showing the *different roles* forms of data collection can play which are rather independent of individual assessments about what information is best obtained with what instrument.

Table 2: Information Needs and Forms of Data Collection

<u>Type of Information</u>	<u>Contextual</u>		<u>Non-Contextual</u>	
	<u>Qualitative</u>	<u>Quantitative</u>	<u>Qualitative</u>	<u>Quantitative</u>
Utilization Profile				
- by provider & region etc.	-	check	-	primary
- unmet aggregate 'need'	-	-	primary	-
- by user (income etc.)	-	check	-	primary
- by epidemiological profile	-	check	-	primary
Economic				
- price response	-	check	-	primary
- exemption policy	check	primary	-	primary
- income response	-	check	-	primary
- conditions of payments	lead	-	follow-up	-
- seasonality factors	primary, lead	primary, lead	follow-up	follow-up
Staffing of Center				
- number and composition	-	-	-	primary
- health knowledge of staff	check	-	primary	-
- gender, age appropriateness	primary, lead	-	follow-up	-
- behavior to customers	primary, lead	-	follow-up	-
- language as barrier	primary, lead	-	follow-up	-
- corruption and accountability	primary	-	-	-
Physical Aspects of Health Facility				
- geographic distance	check	check	primary	primary
- satisfactory transport	primary, lead	-	primary	primary & follow-up
- infrastructure (components)	primary, lead	-	follow-up	primary
- drug availability	primary	-	-	primary
Health Beliefs & Knowledge				
- ethno-medical belief	primary	-	-	-
- conceptualization of disease	primary	-	-	-
- knowledge about treatment	primary, lead	-	follow-up	-
Intra-household factors				
- distribution of resources	check	primary	-	primary
- decision-making process	primary, lead	-	follow-up	-
- education	-	check	-	primary
Intra-community factors				
- stratification	primary	primary	-	-
- support network, kinship	primary	-	-	-
Factors Beyond the Community				
- trust	primary	-	-	-
- conflict	primary	-	-	-

Based on this table, the remainder of this section offers four propositions of how the different forms relate to each other:

- I. *Certain health utilization information can be obtained through contextual methods of data collection only. In these instances, strict statistical representability will have to give way to inductive conclusion, internal validity and replicability of results.*

As recorded in Table 2, contextual methods play a unique and singular role to understand specific aspects of health care utilization. Understanding the importance of ethno-medical beliefs, the conceptualization of disease by local populations, and the role of trust, corruption and conflict as determinants of health demand and provider choice all fall into this category. To require studies in these areas to be 'nationally representative' or to produce 'statistically significant results' would either be false (because some aspects might be inherently local and/or unquantifiable) or uneconomic -- if ten separate and independent case studies in a country show that corruption in rural health centers is a problem for access, policy-makers might be well advised to react to this finding via inductive conclusion rather than to wait for another 90 case studies to meet a representability criterion.²⁶

Given such a unique role in informing policy and planning in these areas, contextual methods need to be of very high quality. And as World Bank chief sociologist Michael Cernea observed with respect to the spread of rapid assessment procedures, such scientific quality is sometimes lacking: "In other words, Rapid Assessment Procedures run the risk of sliding into little more than the quick and unreliable amateurish manner of misgathering social information that they wanted to replace in the first place. It is not an abstract risk: I have seen it at work, wreaking havoc. And I have seen it lurking in the pages of some glossy consultant firms' field reports, marketed now under the newly fashionable RAP label" (Cernea 1992, p.17).

One criterion for achieving such quality standards in studies built on contextual

²⁶ Furthermore, different paradigms exist for ensuring and assessing representativity. The statistical interpretation is only one of them. Estabrooks et al. (1994) describe possibilities for aggregating findings from different investigations which use contextual methods for data generation.

methods is for them to probe for internal validity through triangulation.²⁷ Different tools are apt for triangulation, or cross-checking and controlling, if they measure the same construct but do not share the same sources of error variance (Sechrist and Sedani 1995, p.85). For example, information on ethno-medical beliefs of local populations can be gathered from focus group discussions, open-ended individual conversations, direct observation of health behavior or key informant interviews with traditional healers. Results from using these tools can then be compared and the degree to which they support each other analyzed.

A second quality criterion of contextual studies -- and much harder to achieve -- is replicability. Even simple aggregation or coding of the original raw data is very difficult to confirm independently since they are often based on the researcher's *personal* evaluations and interpretations of what respondents answered or how they reacted. While the best quality assurance lies with the selection of experienced social scientists whose interpretations are insight- and meaningful, a growing number of tools exist which allow to cross-check the assessment of researchers and thereby make the replicability of results easier. First, answers (e.g. from focus group discussions) can be recorded, coded and transcribed by several researchers independently. Going even further, multiple coding of answers makes analysis and interpretation with specifically designed software packages possible.²⁸ Second, while staying within the local context, the quantification of qualitative data can be employed. Many types of qualitative data can, if applied carefully, be quantified in a sensible way, e.g. through explicit scale scores or Likert and Gutman scales.²⁹ Within the local setting, this can permit an important combination of data that would allow for the statistical probing of the influence of e.g. cultural variables on health utilization behavior.³⁰

²⁷ Yach (1992, p. 605) argues that credibility should replace internal validity as the criterion. These two concepts are very similar, however - if internal validity can be achieved through triangulating different methods, credibility of the results will be increased.

²⁸ Saint-Germain et al. (1993, pp.350-352) describe in detail how they converted transcripts of focus group discussions into coded ACSII data format by several independent investigators which was then analyzed with the help of Ethnograph, a PC-based qualitative software analysis program. Brown (1996) discusses the advantages of 'Qmethod', a menu-driven mainframe and PC-program.

²⁹ Carey (1993) discusses methods linking qualitative and quantitative data.

³⁰ Loos (1995) conducts a study combining qualitative and quantitative data to identify the service needs of indigenous people.

II. *In many instances, contextual methods are needed to design appropriate non-contextual data collection tools.*

Village studies on health utilization can inform the design of non-contextual surveys with respect to characteristics of health staff (age, gender, friendliness, and communication), payment systems of providers or the importance of seasonality of incomes or health costs. Results can then be fed back into large-scale surveys to increase the relevance of questions or their formulation.³¹

Contextual methods can, for example, explore if and how income and health expenditures of local populations in rural areas fluctuate in the course of the year. Problems might exist in specific months in which agricultural income is low and health needs are high due to seasonality of diseases. If this is found irrelevant in a number of case studies, larger scale surveys should skip this question as they are to include – in a first best world – only questions that produce relevant information. If it is found important, however, larger scale surveys could probe for a general pattern by directly including questions if families felt that (a) health costs are more difficult to meet in certain months than others; and (b) in which months this is the case.

III. *Where information requires non-contextual data collection methods, contextual methods can play an important role for assessing the validity of the results at the local level.*

Table 2 records a number of information needs which will require estimates based on non-contextual tools of data collection, largely producing quantitative data. Aggregate provider shares, national income- and price-elasticities of demand for health care, or the incidence of public expenditures by income group and other user characteristics (gender or age) are such information requirements crucial for health manpower, price and resource decisions. Quality control for non-contextual data collection methods is called for as much as for contextual methods. Possible non-sampling problems include codification errors, the treatment of non-response entries,

³¹ See Chung (1997) and Holland (1997) on the role of village studies to inform large-scale survey design to measure living standards and poverty.

false answers due to mis-interpretations by either the interviewer or the interviewee, or false answers due to misinformation or deliberate mis-statements by the interviewee.

Investigations using contextual methods have contributions to make for policy formulation in such 'macro' areas. They can assess how important 'the average is at the local level', or as Lanjouw and Stern (1991, p.24) have put it when talking about a village study they conducted in Palanpur, India: "One must be careful in generalizing what has been learned in Palanpur to all of rural India. But, at the same time, if we find that common paradigms of village India do not apply, or that particular policies implemented in, or proposed for, the countryside appear to be inappropriate in Palanpur, we are entitled to ask why that is. The village study and the large-scale survey are, or should be, complementary vehicles for analysis." If provider shares in case studies are found to vary considerably from the national or geographic profile, national user fee policies might have very different impacts on the *local* ground than predicted. Hence, contextual methods can also assess how important it is for general policies to pay attention to the heterogeneity of local conditions.

Another role for contextual methods of data generation is if they have to substitute for large-scale survey data. It can be very difficult for large-scale surveys to produce sensible results on prices and income if economies are in turmoil with households commanding few regular sources of income and prices changing on an hourly basis. The poverty study of the World Bank on Armenia is such an example as it drew very heavily on contextual case studies to substitute for non-credible survey results (Dudwick 1995 and World Bank 1996a).

IV. *In cases where different data collection methods can be used to probe general results, formal links between the methods can -- and need to be -- established.*

As shown in Table 2 above, quite a large number of information requirements about health policy formulation can be met by both contextual and non-contextual methods of data generation -- the methods can validate, complement or substitute for each other. It is important, therefore, to exploit as many formal linkages that can be established between different methods. Two such links are briefly described below.

The first one is a 'fitting exercise'. While case studies cannot be representative of a larger area from a statistical perspective because they cover only a small geographic area, they can nevertheless be indicative of larger trends. A comparison is therefore necessary as to where the case study community fits in the larger urban or rural picture. Variables for the comparison have to be contained in the larger survey and they have to be easily and informally recordable in the case-study community. Simple indicators like rooms per household, water source, electricity supply, education and gender of the household head normally fulfill these criteria. The fit can then be established by matching the value of the chosen variables of the community to the respective values in *different segments* of the national survey, for example ordered by income quintile. Closeness can be defined as the smallest variation between the case study value and the national survey segment per variable.³²

Such fitting exercises are a very easy and quick method placing individual communities in the larger national picture. For example, a community might be found to fit closest to the poorest rural quintile of a larger survey but might have a much higher percentage of adults with completed primary education. Because the educational level is an outlier and known to influence health beliefs and knowledge, conclusions derived from the case study about the role of traditional health beliefs will probably not be indicative of larger trends. It has to be acknowledged, though, that 'communities', and especially their social boundaries, might not be easily identified. If meaningful social boundaries cross with political boundaries, fitting exercises might be much more difficult to undertake.

Closely linked to such fitting exercises is the necessity for case and village studies to employ formal sampling procedures. It is still quite common for studies using contextual methods 'to focus on poor households' in the selection of the sample and thereby willingly forgo the possibility describing a social phenomena for the community or village in its entirety.³³ This is quite unfortunate. The selection of

³² See World Bank (1996b, p.112-114) for an application.

³³ Srimshaw (1992, p.31) describes a number of Rapid Assessment Procedures in health and finds that

households for interviews or mapping exercises is discretionary and dependent on the personal opinion of the researcher ('we went to the households with the poorest looking houses') or key informants ('the village chief explained to us who the poorest in the village were'). It is quite unclear which segment of the village population then actually formed the basis for the research. Certain variables like intra-community stratification are lost as explanatory factors if the household sample is selected in such an ad-hoc way. Further, fitting exercises as described above which establish a formal link between village studies and larger household surveys cannot be established which will complicate the evaluation of how important results from case studies are. Recently, a growing number of investigations employing contextual tools of data generation are careful to follow sampling procedures for precisely these reasons.³⁴

A second formal link can be established by designing case studies employing contextual methodologies to be subsamples of larger, non-contextual surveys.³⁵ This is a very promising road of inquiry as it allows researchers a wealth of comparable analyses including whether stratification according to the household survey is matched by a stratification drawn up by the local population, whether subjective assessments of illness (in the survey) are confirmed by direct observations (over a time period) or whether broad (but closed-end) qualitative questions in the survey about the degree of satisfaction with health services is indeed able to capture the local quality evaluations if obtained with other contextual tools (ranking exercises, focus group discussions). Innovative research in these directions is very much needed to improve and evaluate the comparative strengths of different data collection methods.

random sampling was applied in only few of them. Rather, a focus on poor and rural households was sought (partly because no maps or lists of households in communities existed and this was judged as too time-consuming).

³⁴ See Kozel (1997), Mwenesi et al (1993) and Narayan (1997).

³⁵ This has been employed by Narayan (1997) and is now piloted in a study by Kozel (1997) at the World Bank

5. Concluding Remarks

This paper can surely be called a 'document of the mainstream' in the discussion about integrating different data collection methodologies: it argued that such integration is not only possible but also needed if one wants to understand and obtain information on social phenomena such as the utilization of health facilities in developing countries. The paper concentrated on the data collection phase of social investigations. It argued that one of the confusing factors of the quantitative-qualitative debate in the literature is that methods applied and data generated are not clearly separated in this data collection phase, both being termed 'qualitative' and 'quantitative' quite freely and arbitrary. Instead, the paper distinguished *methods of data collection* and *data type* generated, maintaining the qualitative/quantitative divide pertaining to data but analyzing methods according to their contextuality, i.e. to which degree they attempt to understand human behavior within the social, cultural, economic and political environment of a locality. Further, it was emphasized that it is most fruitful to think of both methods and data to lie on a continuum stretching from more to less contextual methodology and from more to less qualitative data output.

The method-data framework proved useful to examine the information needs for health planning derived from the utilization of health facilities in developing countries. Each combination of method (more or less contextual) and data (more or less qualitative) is a primary and unique source to fulfill different information requirements. The paper concluded that

- (a) certain health utilization information can be obtained through contextual methods of data generation only. In these instances, strict statistical representability will have to give way to inductive conclusion, internal validity and replicability of results;
- (b) in many instances, contextual methods are needed to design appropriate non-contextual data collection tools.
- (c) if information requires non-contextual data collection methods, contextual ones can nevertheless play an important role for assessing the validity of the results at the local level.

One area for future research is to trace how the choice of methods in research design influence policy recommendations and policy choices. Further, the formal connection between different methods and data types (fitting analyses and joint sampling) requires investigation. These promise to be fruitful venues to understand more about the comparative strengths of different data collection processes to analyze social realities -- rather than to continue a now increasingly tedious debate concerning the need for such integration.

References

- Alderman, H. and P. Gertler (1997), Family Resources and Gender Differences in Human Capital Investments: The Demand for Children's Medical Care in Pakistan, in: Intra-household Resource Allocation in Developing Countries, International Food Policy Research Institute, Johns Hopkins University Press, Baltimore, pp. 231-248.
- Alderman, H. and V. Lavy (1996), Household Responses to Public Health Services: Cost and Quality Tradeoffs, *World Bank Research Observer* 11, pp.3-22.
- Arkin, D. (1994), The Health Card Insurance Scheme in Burundi: A Social Asset or a Non-Viable Venture?, *Social Science and Medicine* 39, pp. 861-870.
- AsensoOkyere, W.K., J.A. Dzator and I. OseiAkoto (1996), The Behavior Towards Malaria Care – A Multinomial Logit Approach, *Social Indicators Research* 39, pp. 167-186.
- Aubel, J., M. Alzouma, I. Djabel, S. Ibrahim and B. Coulibaly (1992), From Qualitative Community Data Collection to Programme Design: Health Education Planning in Niger, in: N. S. Scrimshaw and G. R. Gleason (eds), *RAP: Rapid Assessment Procedures, Qualitative Methodologies for Planning and Evaluation of Health Related Programmes*, International Nutrition Foundation for Developing Countries, Boston, pp. 417-431.
- Baker, J. and J. van der Gaag (1993), Equity in Health Care and Health Care Financing: Evidence from Five Developing Countries, in: van Doorslaer, E., A. Wagstaff and F. Rutton (eds), *Equity and Efficiency in the Finance and Delivery of Health Care: An International Comparison*, Oxford University Press, Oxford.
- Baum, F. (1995), Researching Public Health: Behind the Qualitative-Quantitative Methodological Debate, *Social Science and Medicine* 40, pp.459-468.
- Booth, D., J. Milimo, G. Bond, S. Chimuka, M. Nabanda, K. Liywalii, M. Mwalusi, M. Mwanamwalye, E. Mwanza, L. Peme, A. Zulu (1996), Coping with Cost Recovery, A Study of the Social Impact and Responses to Cost Recovery in Basic Services (Health and Education) in Poor Communities in Zambia, Swedish International Development Agency, The Task Force on Poverty Reduction, Working Paper 3, Stockholm.
- Brown, S. R. (1996), Q Methodology and Qualitative Research, *Qualitative Health Research* 6, pp.561-567.
- Bryman, A. (1984), The Debate About Quantitative and Qualitative Research: a Question of Method or Epistemology?, *British Journal of Sociology*, 35, pp. 75-92.
- Carey, J. (1993), Linking Qualitative and Quantitative Methods: Integrating Cultural Factors Into Public Health, *Qualitative Health Research* 3, pp. 298-318.
- Carvalho, S. and H. White (1997), Combining the Quantitative and Qualitative Approaches to Poverty Measurement and Analysis. The Practice and the Potential, World Bank Technical Working Paper 366, Washington.
- Cernea, M. (1992), Re-tooling in Applied Social Investigation for Development Planning: Some Methodological Issues, in: Scrimshaw, S. and Gary R. Gleason (eds), *RAP: Rapid Assessment Procedures, Qualitative Methodologies for Planning and Evaluation of Health Related Programmes*, International Nutrition Foundation for Developing Countries, Boston, pp. 11-23.
- Chambers, R. (1992), Rural Appraisal: Rapid, Relaxed and Participatory, IDS Discussion Paper 311, Brighton.
- Chung, K. (1997), Identifying Good Practice for the Integration of Qualitative and Quantitative Methods for Poverty Research, Watson Institute for International Studies, Brown University.
- Cuanto (1994), Encuesta Nacional de Hogares Sobre Medicion de Niveles de Vida, Lima.
- Delgado, E., S.C. Sorensen and P. van der Stuyft (1994), Health Seeking Behavior and Self-Treatment for Common Childhood Symptoms in Rural Guatemala, *Annales de la Societ e Belge de Medecine Tropicale* 74, pp. 161-168.

- Dudwick, N. (1995)**, A Qualitative Assessment of the Living Standards of the Armenian Population, October 1994-March 1995, George Washington University, Institute for European, Russian and Eurasian Studies, Washington D.C.
- Dunfield, J.F. (1996)**, Consumer Perceptions of Health-Care Quality and the Utilization of Nonconventional Therapy, *Social Science and Medicine* 43, p. 149-161.
- Estabrooks, C. A., P. A. Field, J. M. Morse (1994)**, Aggregating Qualitative Findings: An Approach to Theory Development, *Qualitative Health Research* 4, pp.503-511.
- Francis, P. (1996)**, A 'Social Development' Paradigm?, Paper Prepared for the Annual Meeting of the Society for Applied Anthropology, Seattle, March.
- Gertler, P. and J. van der Gaag (1990)**, The Willingness to Pay for Medical Care: Evidence from Two Developing Countries, The Johns Hopkins University Press, Baltimore.
- Gilson, L., M. Alilio and K. Heggenhougen (1994)**, Community Satisfaction with Primary Health Care Services: An Evaluation Undertaken in the Morogoro Region in Tanzania, *Social Science and Medicine* 39, pp. 767-780.
- Gomart, E. (1996)**, Social Assessment Report on the Education and Health Sectors in Armenia, Eastern and Central Europe Region, World Bank.
- Grosh, M. and J. Muñoz (1996)**, A Manual for Planning and Implementing the Living Standard Measurement Study Survey, LSMS Working Paper 126, World Bank, Washington D.C.
- Haddad, S. and P. Fournier (1995)**, Quality, Cost and Utilization of Health Services in Developing Countries: A Longitudinal Study in Zaire, *Social Science and Medicine* 40, pp. 743-753.
- Hammer, J. (1996)**, Economic Analysis of Health Projects, World Bank Staff Working Paper 1611, Washington D.C.
- Hentschel, J., W.F. Waters and A. K. Vandever Webb (1996)**, Rural Poverty in Ecuador -- A Qualitative Assessment, World Bank Policy Research Working Paper 1576, Washington DC.
- Holland, J. (1997)**, "The Use of Qualitative Survey Material to Inform the Design of the Core Welfare Indicators Questionnaire: A Report for the Social Development and Poverty Elimination Division of the UNDP", University of Wales Swansea, Centre for Development Studies, May.
- Jayaraman, R. and P. Lanjouw (1998)**, The Evolution of Poverty and Inequality in Indian Villages, World Bank Policy Research Working Papers 1870, Washington D.C.
- Jimenez, M. (1986)**, The Public Subsidization of Education and Health in Developing Countries: A Review of Equity and Efficiency, *World Bank Research Observer* 1, pp. 111-128.
- Kaufman, J., K.N. Zhang and J. Fang (1997)**, Reproductive Health Financing, Service Availability and Needs in Rural China, *IDS Bulletin* 28, p.61.
- Kozel, V. (1997)**, Social and Economic Determinants of Poverty in India's Poorest Regions: Qualitative and Quantitative Assessments, Research Proposal and Outline, mimeo, Asia Technical Department, Human Resources Division, World Bank.
- Lanjouw, P. and N. Stern (1991)**, Poverty in Palanpur, *The World Bank Economic Review* 5, pp.23-55.
- Larme, A. (1997)**, Health Care Allocation and Selective Neglect in Rural Peru, *Social Science and Medicine* 44, pp. 1711-1723.
- Lee, K. and A. Mills (1983)**, The Economics of Health in Developing Countries, Oxford Medical Publications, Oxford.
- Litvack, J. and C. Bodart (1993)**, User Fees Plus Quality Equals Improved Access To Health-Care - Results of a Field Experiment in Cameroon, *Social Science and Medicine* 37, pp.369-383.
- Loos, G. P. (1995)**, A Blended Qualitative-Quantitative Assessment Model for Identifying and Rank-Ordering Service Needs of Indigenous Peoples, *Evaluation and Program Planning* 18, pp. 237-244.

- McPake, B. (1993), User Charges for Health-Services in Developing Countries -- A Review of the Economic Literature, *Social Science and Medicine* 36, pp.1397-1405.
- Mechanic, D. (1989), Medical Sociology: Some Tensions about Theory, Method and Substance, *Journal of Health and Social Behavior* 30, pp.147-160.
- Morankar, S. (1993), Utilization of Health-Services in Rural Maharashtra -- An Anthropological Perspective, *Collegium Antropolologicum* 17, pp. 257-265.
- Moser, C. (1996), 'Urban Poverty: How do the Households Adjust?', in: World Bank, Ecuador Poverty Report, Washington D.C., pp. 111-140.
- Mwabu, G., M. Ainsworth, A. Nyamete (1993), Quality of Medical Care and Choice of Medical Treatment in Kenya: An Empirical Analysis, Africa Technical Department, Human Resources and Poverty Division, Technical Working Paper 9, World Bank, Washington D.C.
- Mwenesi, H., T. Harpham and R. W. Snow (1995), Child Malaria Treatment Practices among Mothers in Kenya, *Social Science and Medicine* 40, pp. 1271-1277.
- Narayan, D. (1996), Towards Participatory Research, World Bank Technical Paper 307, World Bank, Washington D.C.
- Narayan, D. (1997), Voices of the Poor, Poverty and Social Capital in Tanzania, ESD Studies and Monograph Series 20, World Bank, Washington D.C., forthcoming.
- Narayan, D. and L. Pritchett (1997), Cents and Sociability, World Bank Policy Research Working Paper 1796, World Bank, Washington D.C.
- Nepal Central Statistical Office (1996), Living Standard Measurement Survey, Katmandu.
- Norton, A. and A. Kessel (1996), Africa Region Systematic Beneficiary Consultation on Health Sector Operations: Messages from our Clients, World Bank, Washington D.C.
- Norton, A., E. Bortei-Doku Aryeetey, D. Korboe, D.K.T. Dogbe (1995), Poverty Assessment in Ghana Using Qualitative and Participatory Research Methods, PSP Discussion Paper Series 83, World Bank.
- Parker, B. (1997), Second Field Test of Qualitative Data Collection Instruments, Consultant Report, Asia Technical Department, Human Resources Division, World Bank.
- Patton, M. Q. (1990), Qualitative Evaluation and Research Methods, Sage Publication, Newbury Park.
- Pedersen, D. (1992), Qualitative and Quantitative: Two Styles of Viewing the World or Two Categories of Reality?, in: Scrimshaw, S. and Gary R. Gleason (eds) RAP: Rapid Assessment Procedures, Qualitative Methodologies for Planning and Evaluation of Health Related Programmes, International Nutrition Foundation for Developing Countries, Boston, pp. 39-49.
- Saint-Germain, M., T. L. Bassord and G. Montano (1993), Surveys and Focus Groups in Health Research With Older Hispanic Women, *Qualitative Health Research* 3, pp. 341-367.
- Salmen, L. (1995), Beneficiary Assessments: An Approach Described, ESD Discussion Papers 23, World Bank, Washington D.C.
- Sauerborn, R., A. Nougara and E. Latimer (1994), The Elasticity of Demand for Health Care in Burkina Faso -- Differences Across Age and Income Groups, *Health Policy and Planning* 9, pp. 185-192.
- Scrimshaw, S. and G. R. Gleason (eds) (1992), RAP: Rapid Assessment Procedures, Qualitative Methodologies for Planning and Evaluation of Health Related Programmes, International Nutrition Foundation for Developing Countries, Boston.
- Scrimshaw, S. (1992), Adaption and Anthropological Methodologies to Rapid Assessment of Nutrition and Primary Health Care, in: Scrimshaw, S. and Gary R. Gleason (eds), RAP: Rapid Assessment Procedures, Qualitative Methodologies for Planning and Evaluation of Health Related Programmes, International Nutrition Foundation for Developing Countries, Boston, pp. 25 - 38.

- SECAP (1994), Encuesta de Condiciones de Vida, Quito.
- Sechrist, L. and S. Sidani (1995), Quantitative and Qualitative Methods: Is There an Alternative?, *Evaluation and Program Planning* 18, pp.77-87.
- Vissandjee, B., R. Barlow and D.W. Frazer (1997), Utilization of Health Services Among Rural Women in Gujarat, India, *Public Health* 111, pp. 135-148.
- World Bank (1994a), Republic of Uganda: District Health Services Pilot and Demonstration Project, Staff Appraisal Report 13515, Washington D.C.
- World Bank (1994b), Utilization of Health Services in Burkina Faso: A Beneficiary Assessment, Population and Human Resources Division, Sahelian Department, Washington D.C.
- World Bank (1995), Kenya: Poverty Assessment, Report 13152, Washington D.C.
- World Bank (1996a), Armenia: Confronting Poverty Issues, Report 15693, Washington D.C.
- World Bank (1996b), Ecuador Poverty Report, Washington D.C.
- World Bank (1997a), Core Welfare Indicators Questionnaire (CWIQ), Background documentation, Washington D.C.
- World Bank (1997b), Poverty in Cote d'Ivoire, report 15640, Washington D.C.
- Yach, D. (1992), The Use and Value of Qualitative Methods in Health Research in Developing Countries, *Social Science and Medicine* 35, pp. 603-625.

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